SEQUENCE LISTING

<110> Pennica, Diane
      Polakis, Paul
      Szeto, Wayne

<120> UPREGULATION OF TUMOR ANTIGENS TO
   ENHANCE EFFICACY OF IMMUNOTHERAPY

<130> GENENT.083A

<150> 60/228,914
<151> 2000-08-29

<150> 09/759,056
<151> 2001-01-11

<150> 60/175,849
<151> 2000-01-13

<150> 60/197,089
<151> 2000-04-14

<160> 28

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 2732
<212> DNA
<213> Homo sapiens

<400> 1
agtcccagac gggcttttcc cagagagcta aaagagaagg gccagagaat gtcgtcccag 60
ccagcaggga accagacctc ccccgggggcc acagaggact actcctatgg cagctggtac 120
atcgatgagc cccaggggggg cgaggagctc cagccagagg gggaagtgcc ctcctgccac 180
accagcatac caccccggcct gtaccacgcc tgcctggcct cgctgtcaat ccttgtgctg 240
ctgctcctgg ccatgctggt gaggcgccgc cagctctggc ctgactgtgt gcgtggcagg 300
cccggcctgc ccagccctgt ggatttcttg gctggggaca ggccccgggc agtgcctgct 360
gctgttttca tggtcctcct gagctccctg tgtttgctgc tccccgacga ggacgcattg 420
cccttcctga ctctcgcctc agcacccagc caagatggga aaactgaggc tccaagaggg 480
gcctggaaga tactgggact gttctattat gctgccctct actaccctct ggctgcctgt 540
gccacggctg gccacacagc tgcacacctg ctcggcagca cgctgtcctg ggcccacctt 600
ggggtccagg tctggcagag ggcagagtgt ccccaggtgc ccaagatcta caagtactac 660
tccctgctgg cctccctgcc tctcctgctg ggcctcggat tcctgagcct ttggtaccct 720
gtgcagctgg tgagaagctt cagccgtagg acaggagcag ctccaagggg gctgcagagc 780
agctactctg aggaatatct gaggaacctc ctttgcagga agaagctggg aagcagctac 840
cacacctcca agcatggctt cctgtcctgg gcccgcgtct gcttgagaca ctgcatctac 900
actccacagc caggattcca tctcccgctg aagctggtgc tttcagctac actgacaggg 960
acggccattt accaggtggc cctgctgctg ctggtgggcg tggtacccac tatccagaag 1020
gtgagggcag gggtcaccac ggatgtctcc tacctgctgg ccggctttgg aatcgtgctc 1080
tccgaggaca agcaggaggt ggtggagctg gtgaagcacc atctgtgggc tctggaagtg 1140
tgctacatct cagccttggt cttgtcctgc ttactcacct tcctggtcct gatgcgctca 1200
ctggtgacac acaggaccaa ccttcgagct ctgcaccgag gagctgccct ggacttgagt 1260
cccttgcatc ggagtcccca tccctcccgc caagccatat tctgttggat gagcttcagt 1320

```
gcctaccaga cagcctttat ctgccttggg ctcctggtgc agcagatcat cttcttcctg 1380
ggaaccacgg ccctggcctt cctggtgctc atgcctgtgc tccatggcag gaacctcctg 1440
ctcttccgtt ccctggagtc ctcgtggccc ttctggctga ctttggccct ggctgtgatc 1500
ctgcagaaca tggcagccca ttgggtcttc ctggagactc atgatggaca cccacagctg 1560
accaaccggc gagtgctcta tgcagccacc tttcttctct cccccctcaa tgtgctggtg 1620
ggtgccatgg tggccacctg gcgagtgctc ctctctgccc tctacaacgc catccacctt 1680
ggccagatgg acctcagcct gctgccaccg agagccgcca ctctcgaccc cggctactac 1740
acgtaccgaa acttcttgaa gattgaagtc agccagtcgc atccagccat gacagccttc 1800
tgctccctgc tcctgcaagc gcagagcctc ctacccagga ccatggcagc cccccaggac 1860
agcctcagac caggggagga agacgaaggg atgcagctgc tacagacaaa ggactccatg 1920
gccaagggag ctaggcccgg ggccagccgc ggcagggctc ctggggtct ggcctacacg 1980
ctgctgcaca acccaaccct gcaggtcttc cgcaagacgg ccctgttggg tgccaatggt 2040
gcccagccct gagggcaggg aaggtcaacc cacctgccca tctgtgctga ggcatgttcc 2100
tgcctaccat cctcctccct ccccggctct cctcccagca tcacaccagc catgcagcca 2160
gcaggtcctc cggatcactg tggttgggtg gaggtctgtc tgcactggga gcctcaggag 2220
ggctctgctc cacccacttg gctatgggag agccagcagg ggttctggag aaaaaaactg 2280
gtgggttagg gccttggtcc aggagccagt tgagccaggg cagccacatc caggcgtctc 2340
cctaccctgg ctctgccatc agccttgaag ggcctcgatg aagccttctc tggaaccact 2400
ccagcccagc tccacctcag ccttggcctt cacgctgtgg aagcagccaa ggcacttcct 2460
cacccccttca gcgccacgga cctctctggg gagtggccgg aaagctcccg gtcctctggc 2520
ctgcagggca gcccaagtca tgactcagac caggtcccac actgagctgc ccacactcga 2580
gagccagata ttttgtagt ttttatgcct ttggctatta tgaaagaggt tagtgtgttc 2640
cctgcaataa acttgttcct gagaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2700
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa                                 2732
```

<210> 2
<211> 667
<212> PRT
<213> Homo sapiens

<400> 2

```
Met Ser Ser Gln Pro Ala Gly Asn Gln Thr Ser Pro Gly Ala Thr Glu
1               5                   10                  15
Asp Tyr Ser Tyr Gly Ser Trp Tyr Ile Asp Glu Pro Gln Gly Gly Glu
                20                  25                  30
Glu Leu Gln Pro Glu Gly Glu Val Pro Ser Cys His Thr Ser Ile Pro
        35                  40                  45
Pro Gly Leu Tyr His Ala Cys Leu Ala Ser Leu Ser Ile Leu Val Leu
    50                  55                  60
Leu Leu Leu Ala Met Leu Val Arg Arg Arg Gln Leu Trp Pro Asp Cys
65                  70                  75                  80
Val Arg Gly Arg Pro Gly Leu Pro Ser Pro Val Asp Phe Leu Ala Gly
                85                  90                  95
Asp Arg Pro Arg Ala Val Pro Ala Ala Val Phe Met Val Leu Leu Ser
            100                 105                 110
Ser Leu Cys Leu Leu Leu Pro Asp Glu Asp Ala Leu Pro Phe Leu Thr
            115                 120                 125
Leu Ala Ser Ala Pro Ser Gln Asp Gly Lys Thr Glu Ala Pro Arg Gly
    130                 135                 140
Ala Trp Lys Ile Leu Gly Leu Phe Tyr Tyr Ala Ala Leu Tyr Tyr Pro
145                 150                 155                 160
Leu Ala Ala Cys Ala Thr Ala Gly His Thr Ala Ala His Leu Leu Gly
                165                 170                 175
Ser Thr Leu Ser Trp Ala His Leu Gly Val Gln Val Trp Gln Arg Ala
            180                 185                 190
Glu Cys Pro Gln Val Pro Lys Ile Tyr Lys Tyr Tyr Ser Leu Leu Ala
        195                 200                 205
```

```
Ser Leu Pro Leu Leu Leu Gly Leu Gly Phe Leu Ser Leu Trp Tyr Pro
    210             215                 220
Val Gln Leu Val Arg Ser Phe Ser Arg Arg Thr Gly Ala Gly Ser Lys
225             230                 235                 240
Gly Leu Gln Ser Ser Tyr Ser Glu Glu Tyr Leu Arg Asn Leu Leu Cys
                245                 250                 255
Arg Lys Lys Leu Gly Ser Ser Tyr His Thr Ser Lys His Gly Phe Leu
                260                 265                 270
Ser Trp Ala Arg Val Cys Leu Arg His Cys Ile Tyr Thr Pro Gln Pro
                275                 280                 285
Gly Phe His Leu Pro Leu Lys Leu Val Leu Ser Ala Thr Leu Thr Gly
                290                 295                 300
Thr Ala Ile Tyr Gln Val Ala Leu Leu Leu Val Gly Val Val Pro
305             310                 315                 320
Thr Ile Gln Lys Val Arg Ala Gly Val Thr Thr Asp Val Ser Tyr Leu
                325                 330                 335
Leu Ala Gly Phe Gly Ile Val Leu Ser Glu Asp Lys Gln Glu Val Val
                340                 345                 350
Glu Leu Val Lys His His Leu Trp Ala Leu Glu Val Cys Tyr Ile Ser
                355                 360                 365
Ala Leu Val Leu Ser Cys Leu Leu Thr Phe Leu Val Leu Met Arg Ser
                370                 375                 380
Leu Val Thr His Arg Thr Asn Leu Arg Ala Leu His Arg Gly Ala Ala
                385                 390                 395                 400
Leu Asp Leu Ser Pro Leu His Arg Ser Pro His Pro Ser Arg Gln Ala
                405                 410                 415
Ile Phe Cys Trp Met Ser Phe Ser Ala Tyr Gln Thr Ala Phe Ile Cys
                420                 425                 430
Leu Gly Leu Leu Val Gln Gln Ile Ile Phe Phe Leu Gly Thr Thr Ala
                435                 440                 445
Leu Ala Phe Leu Val Leu Met Pro Val Leu His Gly Arg Asn Leu Leu
                450                 455                 460
Leu Phe Arg Ser Leu Glu Ser Ser Trp Pro Phe Trp Leu Thr Leu Ala
465             470                 475                 480
Leu Ala Val Ile Leu Gln Asn Met Ala Ala His Trp Val Phe Leu Glu
                485                 490                 495
Thr His Asp Gly His Pro Gln Leu Thr Asn Arg Arg Val Leu Tyr Ala
                500                 505                 510
Ala Thr Phe Leu Leu Phe Pro Leu Asn Val Leu Val Gly Ala Met Val
                515                 520                 525
Ala Thr Trp Arg Val Leu Leu Ser Ala Leu Tyr Asn Ala Ile His Leu
                530                 535                 540
Gly Gln Met Asp Leu Ser Leu Leu Pro Pro Arg Ala Ala Thr Leu Asp
545             550                 555                 560
Pro Gly Tyr Tyr Thr Tyr Arg Asn Phe Leu Lys Ile Glu Val Ser Gln
                565                 570                 575
Ser His Pro Ala Met Thr Ala Phe Cys Ser Leu Leu Leu Gln Ala Gln
                580                 585                 590
Ser Leu Leu Pro Arg Thr Met Ala Ala Pro Gln Asp Ser Leu Arg Pro
                595                 600                 605
Gly Glu Glu Asp Glu Gly Met Gln Leu Leu Gln Thr Lys Asp Ser Met
                610                 615                 620
Ala Lys Gly Ala Arg Pro Gly Ala Ser Arg Gly Arg Ala Arg Trp Gly
625                 630                 635                 640
Leu Ala Tyr Thr Leu Leu His Asn Pro Thr Leu Gln Val Phe Arg Lys
                645                 650                 655
Thr Ala Leu Leu Gly Ala Asn Gly Ala Gln Pro
```

```
<210> 3
<211> 676
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (0)...(0)
<223> n = A, T, C or G

<400> 3
gtgctctccg aggacaagca ggaggnggtg gagctggtga agcaccatct gtgggctctg 60
gaagtgtgct acatctcagc cttggtcttg tcctgcttac tcaccttcct ggtcctgatg 120
cgctcactgg tgacacacag gaccaacctt cgagctctgc accgaggagc tgccctggac 180
ttgagtccct tgcatcggag tccccatccc tcccgccaag ccatattctg ttggatgagc 240
ttcagtgcct accagacagc ctttatctgc cttgggctcc tggtgcagca gatcatcttc 300
ttcctgggaa ccacggccct ggccttcctg gtgctcatgc ctgtgctcca tggcaggaac 360
ctcctgctct tccgttccct ggagtcctcg tggcccttct ggctgacttt ggccctggct 420
gtgatcctgc agaacatggc agcccattgg gtcttcctgg agactcatga tggacaccca 480
cagctgacca accggcgagt gctctatgca gccacctttc ttctcttccc cctcaatgtg 540
ctggtgggtg ccatggtggc cacctggcga gtgctcctct ctgccctcta caacgccatc 600
caccttggcc agatggacct cagcctgctg ccaccgagag ccgccactct cgaccccggc 660
tactacacgt accgaa 676

<210> 4
<211> 2777
<212> DNA
<213> Homo sapiens

<400> 4
cacaaccagc cacccctcta ggatcccagc ccagctggtg ctgggctcag aggagaaggc 60
cccgtgttgg gagcaccctg cttgcctgga gggacaagtt ccgggagag atcaataaag 120
gaaaggaaag agacaaggaa gggagaggtc aggagagcgc ttgattggag gagaagggcc 180
agagaatgtc gtcccagcca gcagggaacc agacctcccc cggggccaca gaggactact 240
cctatggcag ctggtacatc gatgagcccc aggggggcga ggagctccag ccagaggggg 300
aagtgccctc ctgccacacc agcataccac ccggcctgta ccacgcctgc ctggcctcgc 360
tgtcaatcct tgtgctgctg ctcctggcca tgctggtgag gcgccgccag ctctggcctg 420
actgtgtgcg tggcaggccc ggcctgccca gcccccgggc agtgcctgct gctgtttca 480
tggtcctcct gagctccctg tgtttgctgc tccccgacga ggacgcattg cccttcctga 540
ctctcgcctc agcacccagc caagatggga aaactgaggc tccaagaggg gcctggaaga 600
tactgggact gttctattat gctgccctct actaccctct ggctgcctgt gccacggctg 660
gccacacagc tgcacacctg ctcggcagca cgctgtcctg ggcccacctt ggggtccagg 720
tctggcagag ggcagagtgt ccccaggtgc ccaagatcta caagtactac tccctgctgg 780
cctccctgcc tctcctgctg ggcctcggat tcctgagcct ttggtaccct gtgcagctgg 840
tgagaagctt cagccgtagg acaggagcag gctccaaggg gctgcagagc agctactctg 900
aggaatatct gaggaacctc ctttgcagga agaagctggg aagcagctac cacacctcca 960
agcatggctt cctgtcctgg gcccgcgtct gcttgagaca ctgcatctac actccacagc 1020
caggattcca tctcccgctg aagctggtgc tttcagctac actgacaggg acggccattt 1080
accaggtggc cctgctgctg ctggtgggcg tggtacccac tatccagaag gtgagggcag 1140
gggtcaccac ggatgtctcc tacctgctgg ccggctttgg aatcgtgctc tccgaggaca 1200
agcaggaggt ggtggagctg gtgaagcacc atctgtgggc tctggaagtg tgctacatct 1260
cagccttggt cttgtcctgc ttactcacct tcctggtcct gatgcgctca ctggtgacac 1320
acaggaccaa ccttcgagct ctgcaccgag gagctgccct ggacttgagt cccttgcatc 1380
ggagtcccca tccctcccgc caagccatat ctgttggat gagcttcagt gcctaccaga 1440
```

```
cagcctttat ctgccttggg ctcctggtgc agcagatcat cttcttcctg ggaaccacgg 1500
ccctggcctt cctggtgctc atgcctgtgc tccatggcag gaacctcctg ctcttccgtt 1560
ccctggagtc ctcgtggccc ttctggctga ctttggccct ggctgtgatc ctgcagaaca 1620
tggcagccca ttgggtcttc ctggagactc atgatggaca cccacagctg accaaccggc 1680
gagtgctcta tgcagccacc tttcttctct cccccctcaa tgtgctggtg ggtgccatag 1740
tggccacctg gcgagtgctc ctctctgccc tctacaacgc catccacctt ggccagatgg 1800
acctcagcct gctgccaccg agagccgcca ctctcgaccc cggctactac acgtaccgaa 1860
acttcttgaa gattgaagtc agccagtcgc atccagccat gacagccttc tgctccctgc 1920
tcctgcaagc gcagagcctc ctacccagga ccatggcagc cccccaggac agcctcagac 1980
caggggagga agacgaaggg atgcagctgc tacagacaaa ggactccatg gccaagggag 2040
ctaggcccgg ggccagccgc ggcagggctc gctggggtct ggcctacacg ctgctgcaca 2100
acccaacccct gcaggtcttc cgcaagacgg ccctgttggg tgccaatggt gcccagccct 2160
gagggcaggg aaggtcaacc cacctgccca tctgtgctga ggcatgttcc tgcctaccac 2220
ctcctccctc cccggctctc ctcccagcat cacaccagcc atgcagccag caggtcctcc 2280
ggatcactgt ggttgggtgg aggtctgtct gcactgggag cctcaggagg gctctgctcc 2340
acccacttgg ctatgggaga gccagcaggg gttctggaga aagaaactgg tgggttaggg 2400
ccttggtcca ggagccagtt gagccagggc agccacatcc aggcgtctcc ctaccctggc 2460
tctgccatca gccttgaagg gcctcgatga agccttctct ggaaccactc cagcccagct 2520
ccacctcagc cttggccttc acgctgtgga agcagccaag gcacttcctc acccccctcag 2580
cgccacggac ctctctgggg agtggccgga aagctcccgg gcctctggcc tgcagggcag 2640
cccaagtcat gactcagacc aggtcccaca ctgagctgcc cacactcgag agccagatat 2700
ttttgtagtt tttatgcctt tggctattat gaaagaggtt agtgtgttcc ctgcaataaa 2760
cttgttcctg agaaaaa                                                2777
```

<400> 5

```
Met Ser Ser Gln Pro Ala Gly Asn Gln Thr Ser Pro Gly Ala Thr Glu
1               5                   10                  15
Asp Tyr Ser Tyr Gly Ser Trp Tyr Ile Asp Glu Pro Gln Gly Gly Glu
            20                  25                  30
Glu Leu Gln Pro Glu Gly Glu Val Pro Ser Cys His Thr Ser Ile Pro
        35                  40                  45
Pro Gly Leu Tyr His Ala Cys Leu Ala Ser Leu Ser Ile Leu Val Leu
    50                  55                  60
Leu Leu Leu Ala Met Leu Val Arg Arg Arg Gln Leu Trp Pro Asp Cys
65                  70                  75                  80
Val Arg Gly Arg Pro Gly Leu Pro Arg Pro Arg Ala Val Pro Ala Ala
                85                  90                  95
Val Phe Met Val Leu Leu Ser Ser Leu Cys Leu Leu Leu Pro Asp Glu
                100                 105                 110
Asp Ala Leu Pro Phe Leu Thr Leu Ala Ser Ala Pro Ser Gln Asp Gly
            115                 120                 125
Lys Thr Glu Ala Pro Arg Gly Ala Trp Lys Ile Leu Gly Leu Phe Tyr
    130                 135                 140
Tyr Ala Ala Leu Tyr Tyr Pro Leu Ala Ala Cys Ala Thr Ala Gly His
145                 150                 155                 160
Thr Ala Ala His Leu Leu Gly Ser Thr Leu Ser Trp Ala His Leu Gly
                165                 170                 175
Val Gln Val Trp Gln Arg Ala Glu Cys Pro Gln Val Pro Lys Ile Tyr
                180                 185                 190
Lys Tyr Tyr Ser Leu Leu Ala Ser Leu Pro Leu Leu Leu Gly Leu Gly
            195                 200                 205
Phe Leu Ser Leu Trp Tyr Pro Val Gln Leu Val Arg Ser Phe Ser Arg
```

```
          210                     215                     220
Arg Thr Gly Ala Gly Ser Lys Gly Leu Gln Ser Ser Tyr Ser Glu Glu
225                     230                     235                     240
Tyr Leu Arg Asn Leu Leu Cys Arg Lys Lys Leu Gly Ser Ser Tyr His
            245                     250                     255
Thr Ser Lys His Gly Phe Leu Ser Trp Ala Arg Val Cys Leu Arg His
            260                     265                     270
Cys Ile Tyr Thr Pro Gln Pro Gly Phe His Leu Pro Leu Lys Leu Val
            275                     280                     285
Leu Ser Ala Thr Leu Thr Gly Thr Ala Ile Tyr Gln Val Ala Leu Leu
            290                     295                     300
Leu Leu Val Gly Val Val Pro Thr Ile Gln Lys Val Arg Ala Gly Val
305                     310                     315                     320
Thr Thr Asp Val Ser Tyr Leu Leu Ala Gly Phe Gly Ile Val Leu Ser
                    325                     330                     335
Glu Asp Lys Gln Glu Val Val Glu Leu Val Lys His His Leu Trp Ala
            340                     345                     350
Leu Glu Val Cys Tyr Ile Ser Ala Leu Val Leu Ser Cys Leu Leu Thr
            355                     360                     365
Phe Leu Val Leu Met Arg Ser Leu Val Thr His Arg Thr Asn Leu Arg
370                     375                     380
Ala Leu His Arg Gly Ala Ala Leu Asp Leu Ser Pro Leu His Arg Ser
385                     390                     395                     400
Pro His Pro Ser Arg Gln Ala Ile Phe Cys Trp Met Ser Phe Ser Ala
                    405                     410                     415
Tyr Gln Thr Ala Phe Ile Cys Leu Gly Leu Leu Val Gln Gln Ile Ile
                    420                     425                     430
Phe Phe Leu Gly Thr Thr Ala Leu Ala Phe Leu Val Leu Met Pro Val
                    435                     440                     445
Leu His Gly Arg Asn Leu Leu Leu Phe Arg Ser Leu Glu Ser Ser Trp
            450                     455                     460
Pro Phe Trp Leu Thr Leu Ala Leu Ala Val Ile Leu Gln Asn Met Ala
465                     470                     475                     480
Ala His Trp Val Phe Leu Glu Thr His Asp Gly His Pro Gln Leu Thr
                    485                     490                     495
Asn Arg Arg Val Leu Tyr Ala Ala Thr Phe Leu Leu Phe Pro Leu Asn
                    500                     505                     510
Val Leu Val Gly Ala Ile Val Ala Thr Trp Arg Val Leu Leu Ser Ala
                    515                     520                     525
Leu Tyr Asn Ala Ile His Leu Gly Gln Met Asp Leu Ser Leu Leu Pro
            530                     535                     540
Pro Arg Ala Ala Thr Leu Asp Pro Gly Tyr Tyr Thr Tyr Arg Asn Phe
545                     550                     555                     560
Leu Lys Ile Glu Val Ser Gln Ser His Pro Ala Met Thr Ala Phe Cys
                    565                     570                     575
Ser Leu Leu Leu Gln Ala Gln Ser Leu Leu Pro Arg Thr Met Ala Ala
                    580                     585                     590
Pro Gln Asp Ser Leu Arg Pro Gly Glu Glu Asp Glu Gly Met Gln Leu
            595                     600                     605
Leu Gln Thr Lys Asp Ser Met Ala Lys Gly Ala Arg Pro Gly Ala Ser
            610                     615                     620
Arg Gly Arg Ala Arg Trp Gly Leu Ala Tyr Thr Leu Leu His Asn Pro
625                     630                     635                     640
Thr Leu Gln Val Phe Arg Lys Thr Ala Leu Leu Gly Ala Asn Gly Ala
                    645                     650                     655
Gln Pro
```

```
<210> 6
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 6
cacactcgag agccagatat ttt                                        23

<210> 7
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 7
aacaagttta ttgcagggaa cac                                        23

<210> 8
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 8
tgtagttttt atgcctttgg ctattatgaa agaggt                          36

<210> 9
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 9
agaccaggtc ccacactga                                             19

<210> 10
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 10
ttcataatag ccaaaggcat aaaa                                       24
```

```
<210> 11
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 11
ctgcccacac tcgagagcca gat                                                    23

<210> 12
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic peptide

<400> 12
Met Lys His Gln His Gln His Gln His Gln His Gln His Gln Met His
 1               5                   10                  15
Gln


<210> 13
<211> 9
<212> PRT
<213> Homo sapiens

<400> 13
Ser Pro Val Asp Phe Leu Ala Gly Asp
 1               5

<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 14
gaagatggtg atgggatttc                                                        20

<210> 15
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 15
gaaggtgaag gtcggagtc                                                         19
```

<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 16
caagcttccc gttctcagcc   20

<210> 17
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 17
tgcaccacca actgcttag   19

<210> 18
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 18
ggatgcaggg atgatgttc   19

<210> 19
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 19
cagaagactg tggatggccc ctc   23

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 20
gtaggccagg gctatttctg   20

<210> 21

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 21
tgtctcatga gggtccaaaa   20

<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 22
tggcgctctt ctctcctcgg t   21

<210> 23
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 23
tcgccaagct actggctaa   19

<210> 24
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 24
cttggctgtg ccagttca   18

<210> 25
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 25
aaccaagcat cgttgtgcaa tacaactc   28

<210> 26
<211> 21
<212> DNA

<210> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 26
gccagtacag gatctggaaa g   21

<210> 27
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 27
catatctcat cagagagcat ctaaaa   26

<210> 28
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence = synthetic oligonucleotide

<400> 28
aagcttttag cctgcccagc ca   22